

WHAT IS CLAIMED IS:

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1. An optical module comprising:
an optical semiconductor element sealed with a cap having
an upper surface formed with a window;
5 at least one optical part confronted with the window;
a housing holding the optical part therein, and having an
opened end face; and
a connecting layer directly connecting the upper surface
of the cap to the opened end face of the housing.
- 10 2. The optical module according to claim 1, wherein an
outer dimension of the opened end face of the housing is equal
to or smaller than an outer dimension of the upper surface of
the cap.
- 15 3. The optical module according to claim 1, wherein the
optical semiconductor element has a stem portion opposite from
the upper surface of the cap, and an outer dimension of the opened
end face of the housing is equal to or smaller than an outer
dimension of the stem portion.
- 20 4. The optical module according to claim 1, wherein the
optical semiconductor element has a stem portion opposite from
the upper surface of the cap, and the stem portion is distanced
from the opened end face of the housing.
- 25 5. The optical module according to claim 1, wherein the
connecting layer is formed by an adhesive curable by irradiation
of ultraviolet rays.

6. The optical module according to claim 1, wherein the housing has a receptacle part adapted to receive a mating optical plug.

7. The optical module according to claim 1, further comprising:

a casing, which at least partly covers the cap and the housing; and which extends across the connecting layer.

8. The optical module according to claim 7, further comprising:

10 a sealing layer filled in a clearance between the casing, and the connecting layer, the sealing layer being formed by resin curable thermally.

9. An optical module in which an optical semiconductor element of the cap sealing type is mounted on a housing to be aligned with an optical axis of at least one optical part contained in the housing, wherein:

an upper surface of a cap of said optical semiconductor element is bonded to an end face of said housing.

10. An optical module in which an optical semiconductor element of the cap sealing type is mounted on a housing to be aligned with an optical axis of a lens contained in the housing adapted to fittingly receive and hold a ferule of an optical plug of an mating connecting member, wherein:

an upper surface of a cap of said optical semiconductor element is bonded to an end face of said housing.

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11. The optical module according to claim 9 or 10, wherein
a side surface of said cap of said optical semiconductor element
and a side surface of said housing is at least partly covered
with a casing, and a clearance therebetween is sealed with resin.

5 12. The optical module according to claim 11, wherein the
upper surface of said cap of said optical semiconductor element
and the end face of said housing are bonded by ultraviolet curing
adhesive, and the clearance between the inner surface of said
casing, and each of the side surface of said cap of said optical
10 semiconductor element and the side surface of said housing is
sealed with thermosetting resin.

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13. An optical module unit wherein a plurality of the optical
modules constructed according to claim 9 or 10 are arrayed in
juxtaposition, and covered with a single common casing, and a
15 clearance therebetween is sealed with resin.

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